

FUTURARC

The Voice of Green Architecture in Asia-Pacific

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GREEN AWARDS

Inside: FuturArc Prize 2017; meet the winners | Dr Wolfgang Kessling; physicist and climate engineer, Transsolar Energietechnik GmbH | Works of Hong Kong Housing Authority; SHAU International; T.R. Hamzah and Yeang; Vo Trong Nghia; and more | Special Supplement; winning entries of FuturArc Prize 2017

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Letter from the editor

Dear *FuturArc* Readers,

The brief for FuturArc Prize 2017 asked if it's possible for a standalone building to become a catalyst for a wider systemic change. Is every new development, small or big, capable of *common good*? Entrants had to design a building—commercial or residential, on a site in an Asian city of their choice—that would actively engage urban systems, the many networks of flows and exchanges that sustain life. The implicit critique here is that buildings do not do enough when they seek to be Green, as we know it. Improvements to indoor environmental quality or resource efficiency within site and shell are not enough where the neighbourhood is a slum or waterways are polluted.

What a notion! That each building—like a citizen of a community—is beholden to collective good. This seems highly improbable in a business-as-usual model, where wealth buys the right to pollute, where gated communities turn their back on the world outside. And yet, in the face of all the urban degradation that we see every day, in almost every city in Asia, this is a breakthrough idea whose time has come.

So how do we move forward?

First, by imagining a new landscape. FuturArc Prize, now in its 10th year, asked that the Asian city be reimaged. In the shortlisted submissions in both categories, Professional and Student, the jury saw innovations of architectural typology; buildings that sink into the ground or fractalize, creating new surfaces for urban greenery or farming. We saw new kinds of urban infrastructure—farming to mobility—that integrate private needs with public good. We witnessed interest in hydrological systems: the repair of polluted waterways or the mitigation of floods.

The jury—experts from India, the Philippines, Sri Lanka, Singapore and the United States—met in Singapore in March 2017 to sift through some 20 plus finalists that had been selected from over 100 submissions. We talked afterwards about the lessons learnt.

The first lesson was that we—the design professionals—have lost touch with the social roots of good design. Without this, there can be no sustainable future. Attention to public space, in particular, was evident in almost all entries. And this was tied to goals of inclusivity and social equity. In the era of *starchitects* and hyper-growth, 'social' has been put on a back burner. We need to bring social capital back into the discourse, and place it squarely alongside financial capital.

The second lesson was that natural capital must also become part of the discussion. The disconnection we feel from our natural selves is neither healthy nor profitable in the long run. Unhappy, unhealthy people eventually leave or give up. Natural capital, as we were shown, was about the repair of damaged hydrological systems and the introduction of nature into our cities—biophilic elements that repair our collective psyche.

Our hope is that some politician or developer somewhere will fall in love with the new landscapes shown in the winning entries that are assembled at the back of this issue. And following that first spark of attraction, s/he might ask, "If someone can imagine this, why can't it be done?"

Honestly, we can't think of a reason why not.

Happy reading.

Dr Nirmal Kishnani

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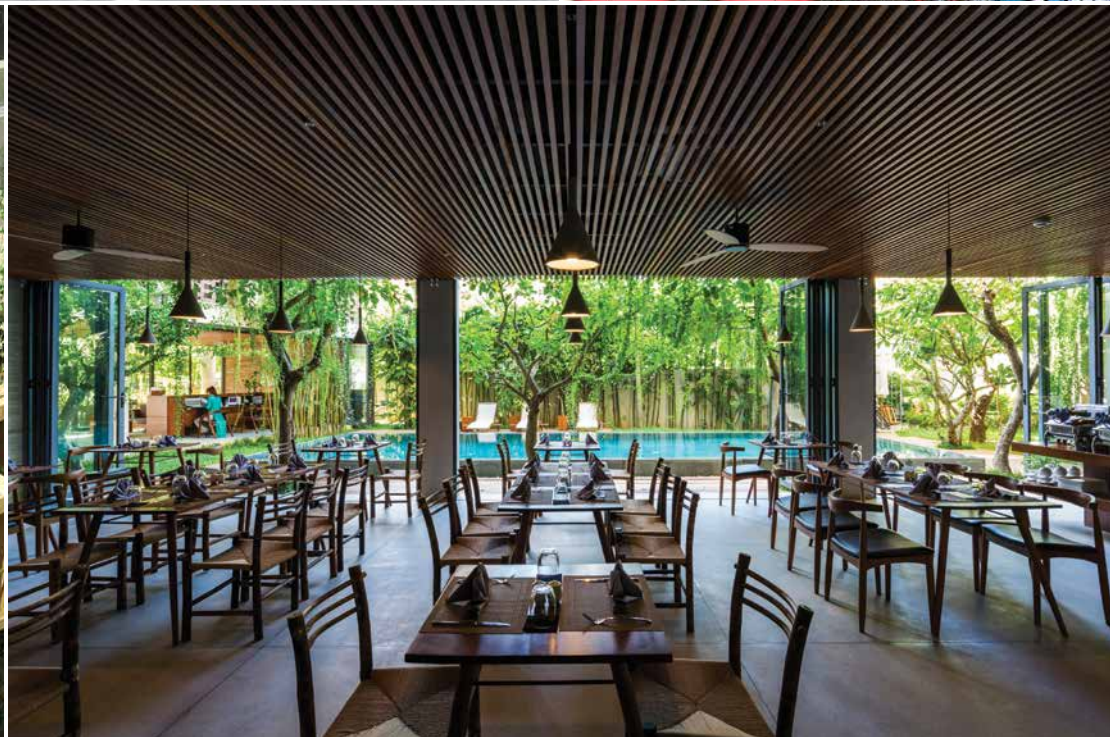
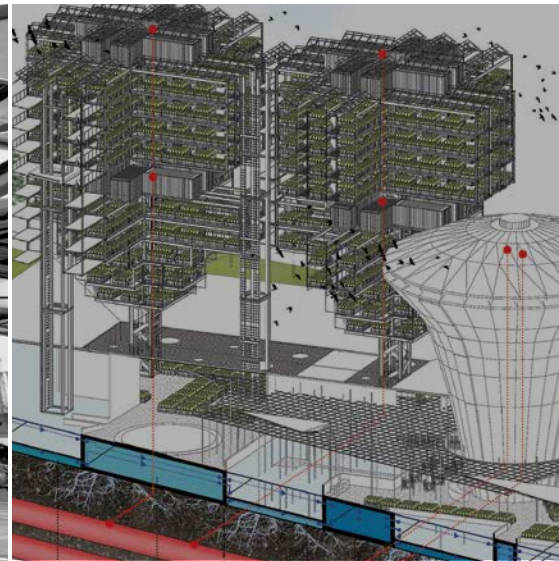
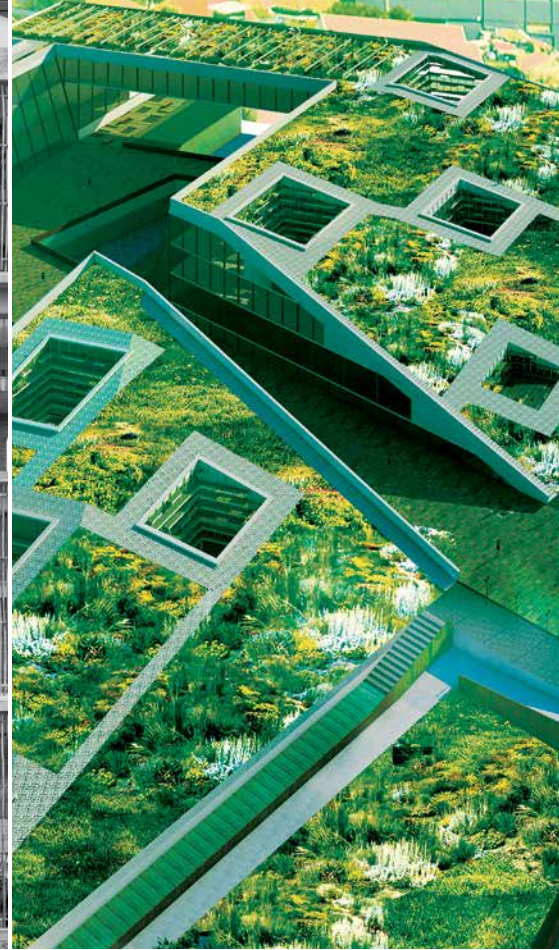
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Director, Transsolar Energietechnik GmbH

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HONG KONG



PUBLIC HOUSING, HONG KONG

CONVERSION OF CHAI WAN FACTORY ESTATE TO PUBLIC RENTAL HOUSING

AN ADAPTIVE REUSE OF HERITAGE

The historical Chai Wan Factory Estate (CWFE), which was granted Grade II Historic Building status by the Antiquities Advisory Board, was converted into Wah Ha Estate. The conversion was announced in 2012 to increase and expedite the short-term public housing supply, and it was completed in June 2016, providing 187 flats on five domestic storeys.

CONSERVING HERITAGE

CWFE was constructed in June 1959. It is the last H-shaped factory building in Hong Kong, with an area of 0.4 hectares, located in close proximity to the MTR station. With the purpose of enhancing public awareness of heritage conservation and sustainable housing development, the existing industrial building was retained for adaptive redevelopment.

The conversion proved to be a challenging task throughout the whole planning, design and construction process, due to considerations of safety and structural stability, health and environmental issues, as well as the compliance of statutory requirements. Building clearance was required before the commencement of actual construction works, during which a large number of artefacts were salvaged. Existing floor slabs were tested and verified that the retained structure and materials can fulfil the latest fire safety requirements. As the test results were satisfactory, the original appearance of the building with about 70 percent of the building structure can be retained, which significantly reduced the demolition and reconstruction of floor slabs, and thus building materials, energy consumption and carbon emissions in the construction process. Soil decontamination was carried out before the construction works started in order to ensure that future tenants of the estate can live or operate their business in a safe environment, and free from potential health risks arising from contaminated land. A number of 'character

defining elements' have also been retained, including the H-shaped building form; strong horizontal lines formed by the balconies and slabs; paint characters and floor loading capacity; ramps with concrete grilles; and chimneys stacks.

THOUGHTFUL BUILDING DESIGN

The building block was carefully redesigned to suit the needs of public rental households and communities. Its industrial building form gave rise to a floor plan that is varied enough to suit the intended use and scale of the occupants. During the conversion, each floor was redesigned and modified into domestic flats to fully utilise the floor space in the building.

1 Aerial view of the green roofs 2 Photo of the old factory estate



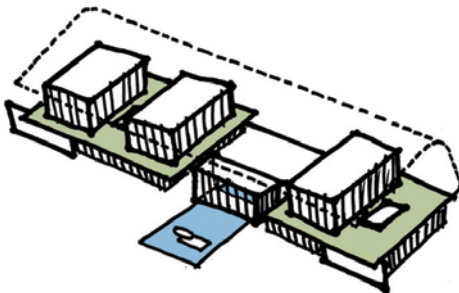
INDIA



The canopy or 'shelter' also worked to cut radiation, heat and glare, especially on the western façade



Multiple layers of green surrounding the buildings



Office blocks placed on an elevated green plane with a perforated aluminium mesh that provides 'shelter'

APOLLO TYRES GLOBAL R&D CENTER

The project is a centre for study, creativity, innovation and growth, as well as to carry out extensive testing and experimentation in high-performance laboratories in the field of automobile tyres. The client's brief required a building that was modular, allowing for future expansion, and one that would express the modern and global direction of the company.

The centre is located in Oragadam, an industrial corridor on the outskirts of Chennai. The 5-acre site for the R&D Center is part of a 200-acre manufacturing plant for Apollo Tyres and is surrounded by other mega automobile and related factories. With due consideration to its immediate 'hard' setting and the nature of the product, namely tyres, the aim was to create a micro-environment that is 'soft', soothing and calm—an oasis in a way.

The approach was to craft a space within a shelter with its own inherent quality of light, shade, visual and sensory appeal, as well as pulse. The shelter or envelope was developed using a perforated screen that embraces the interior and exterior spaces within it. The architecture firm developed a façade panel module by working closely with a local fabricator; a 1-millimetre aluminium sheet was used to punch perforations of different diameters. These perforated sheets were then corrugated to achieve the desired strength and thereafter used as the external skin of the building. The skin allows for a vibrant and manageable

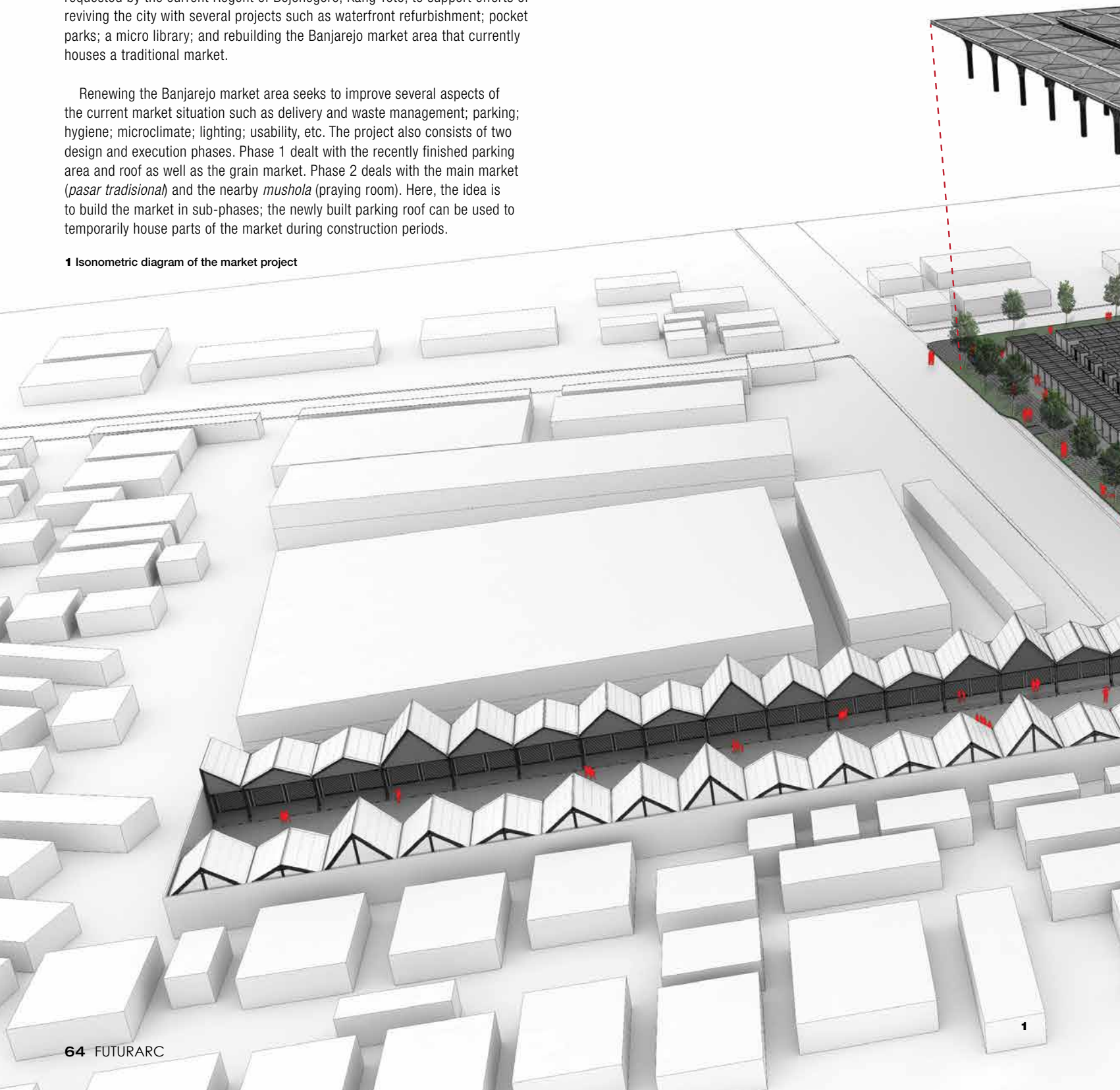
1 Landscaped terrace 2 Concept sketches

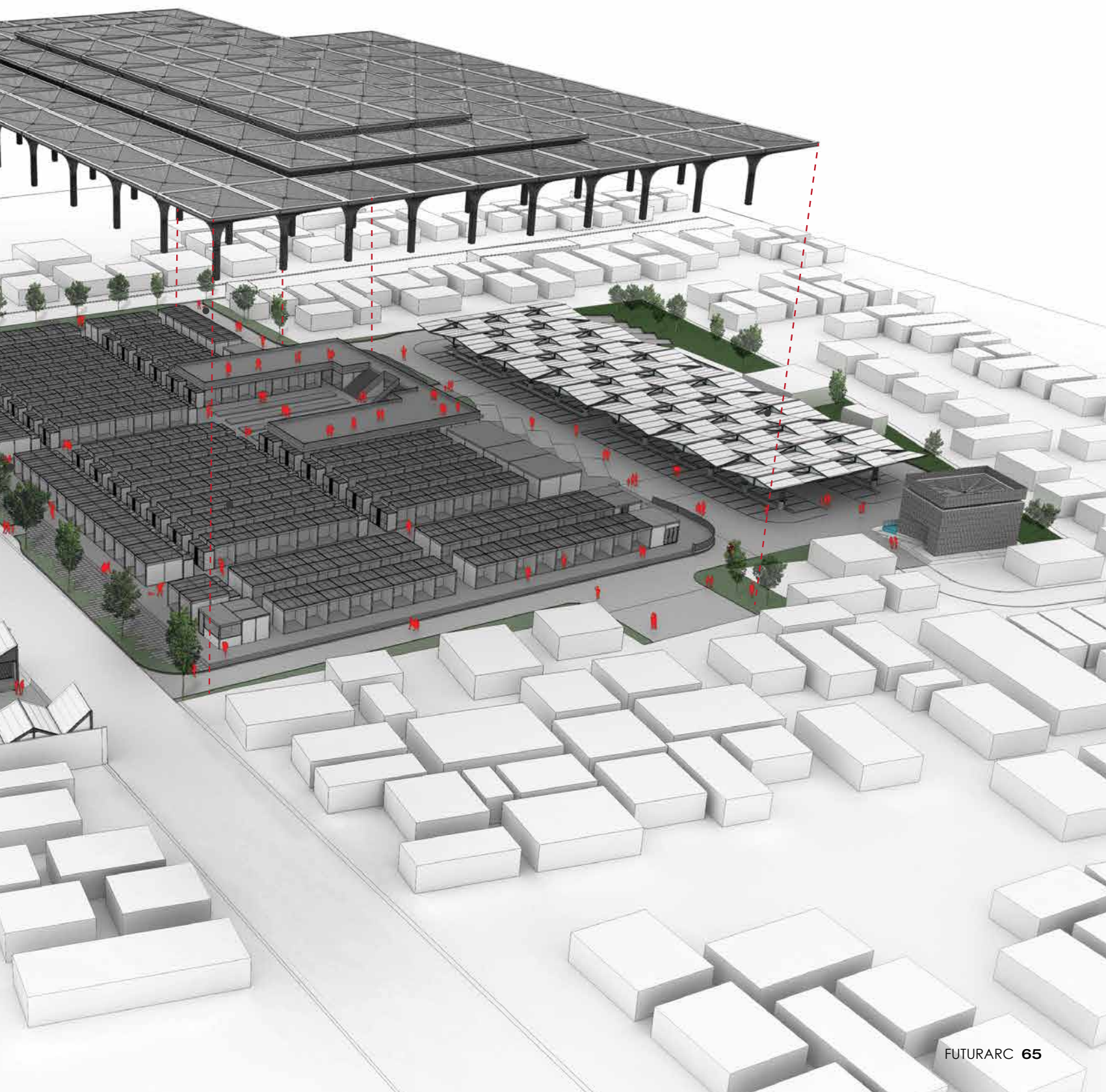
BANJAREJO MARKET

Located about 110 kilometres west of Surabaya (capital of East Java), Bojonegoro is the capital of the Bojonegoro Regency. The architecture firm was requested by the current Regent of Bojonegoro, Kang Yoto, to support efforts of reviving the city with several projects such as waterfront refurbishment; pocket parks; a micro library; and rebuilding the Banjarejo market area that currently houses a traditional market.

Renewing the Banjarejo market area seeks to improve several aspects of the current market situation such as delivery and waste management; parking; hygiene; microclimate; lighting; usability, etc. The project also consists of two design and execution phases. Phase 1 dealt with the recently finished parking area and roof as well as the grain market. Phase 2 deals with the main market (*pasar tradisional*) and the nearby *mushola* (praying room). Here, the idea is to build the market in sub-phases; the newly built parking roof can be used to temporarily house parts of the market during construction periods.

1 Isometric diagram of the market project





MALAYSIA



SUASANA PUTRAJAYA

by **Dr Zalina Shari**

Lying along the main boulevard in Precinct 2 in Putrajaya, the Suasana Putrajaya building has received the Green Building Index (GBI) silver rating (provisional) in 2014 and is scheduled to be completed by the middle of this year. It is designed to fulfil the owner Putrajaya Holdings' vision of having an anchor project within the mixed-use development district of Precinct 2 in Putrajaya.

The site is bounded to the north by the Dataran Wawasan (a landscaped open space), the Malaysian Resources Corporation Berhad's office tower (currently under construction), and Putrajaya Holdings' own headquarters the Menara PjH; to the east of the Dataran Wawasan runs the Persiaran Perdana (also known as Putrajaya Boulevard) with the Ministry of Finance (MoF) building across the Boulevard; to the south by vacant lots; and to the west by Jalan Tun Abdul Razak and the future commercial development lots (with a view to Putrajaya Lake and beyond to Precinct 8).

The built form is essentially two almost identical V-shaped blocks, each consisting of a seven-storey podium; and above each podium is a seven-storey tower slab tower with faceted ends. This gives a total of 14 storeys for each block. The first three floors accommodate retail and F&B outlets, whereas the rest of the floors are offices. Each block is designed with its own four-storey-high porte-cochère vehicular drop-off, which leads to the entrance and to a triangular-shaped lobby with a backdrop feature wall and overhead skylight.

1 Aerial view from the north



VIETNAM





ATLAS HOTEL IN HOI AN

The Atlas Hotel is located in Hoi An's Old Town, an area that has rapidly grown since it was officially declared as a UNESCO World Heritage site in 1999. Recently, most of the ancient houses have been converted into modern shops and restaurants that serve the daily influx of tourists. The neighbourhood is well known for its tiled-roofscape and internal courtyards that provide a layered spatial quality between the inner and outer spaces. This quality has, however, been slowly eroded due to chaotic commercial developments.

Located on an irregular plot of land, the design approach for the hotel is to turn this site constraint into its distinctive character. The linear layout is divided into several internal courtyards, and by lifting the building above the site, it completely frees the ground floor to create an interconnected network of courtyards. This spatial quality reflects the dynamism of the new Hoi An but also retains the charm of the Old Town. The five-storey hotel includes 48 guest rooms and various leisure functions such as a restaurant, café, rooftop bar, spa, gymnasium and swimming pool. Due to the complexity of the site, each guest room is shorter and wider than typical hotel rooms—this presented an opportunity for the rooms to have greater access to greenery not only from the bedroom but also from the bathroom.

1 Main façade

VIETNAM





MAISON T

In a crowded and busy city like Hanoi, people take advantage of every single space they have. This house and its garden stand humbly amidst the surrounding building blocks. Instead of using all the land or keeping an indoor courtyard space, the house is set back from the street to offer the whole alley a green space—with plantings and creepers growing on brick walls—a small but precious 'breathing' gap in the dense urban setting. The front 'gate' used alternating brickwork as its form, which created a sparse fence separating the house from the street while sharing the green space with its neighbours.

The house in this typical Hanoi alley was designed for a young man who came back after spending a long time living abroad. He wanted a house with a private space that is also open—a place where he can relax and share with friends as a peaceful hideout. This client wanted a dog-friendly home, and so it must have a garden for both to enjoy nature. Based on the client's needs and site location, the architect offered a free-form design, eliminating the typical functional boundaries one would find in a house.

Although the plan area is only 40 square metres, the house conveys a sense of roominess on the inside as the whole space is connected even though there are no walls to fix the functions to any space. Light and ventilation are brought into the house through its large windows at the front and its various gaps and openings. The architect chose natural and rustic materials to bring about a cosy and comfortable ambience.

1 Street elevation

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Hospitality

In the next issue, we delve into the multibillion-dollar tourism industry and showcase projects—such as hotels; restaurants; resorts—that are beautifully designed and environmentally sensitive. Such developments have high maintenance and operating costs with large impacts on the local contexts, so it is most crucial that they are designed, built and maintained to take into account not just profit, but also people and the planet.

If you have projects to nominate, please send an email with a brief profile and photos to c.lim@futurarc.com by end May 2017.

We will notify you if your project is shortlisted for publication. Please note that the selection of projects is subject to editorial discretion.

*Naman Retreat by Vo Trong Nghia Architects
Photo from Hirofumi Oki; Vo Trong Nghia Architects*



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